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ABSTRACT

It has been reported (Terrell 1974) that in Cuban Spanish word-final /s/ aspiration is generally not affected by grammatical constraints, except for determiners in prevocalic environments. However, deletion of /s/, according to Terrell, is correlated with morphological classes and grammatical function, and is constrained by functional considerations, i.e., /s/ deletion tends to occur in cases where its presence is redundant. In an effort to find evidence that would either support his data or present counterevidence, tabulations were made of the grammatical environments in which word-final /s/ aspiration and deletion occurred in five hours of tape-recorded free conversation from twenty-one native speakers of Miami-Cuban Spanish. The results of this tabulation are reported and compared with Terrell's data. In addition, the significance of his proposed theory of the interaction of grammatical constraints and semantic redundancy is discussed in terms of its implications for linguistic theory. The results of the present study do not seem to support his findings. (Author/CFM)

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# GRAMMATICAL CONSTRAINTS ON /s/ DELETION IN CUBAN SPANISH

## A PRELIMINARY STUDY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The systematic phoneme /s/ in word-final environments in standard Spanish has a high functional load. It is used to distinguish between the singular and plural of nouns and adjectives, e.g. libro pesado 'heavy book' versus libros pesados 'heavy books', and between the second and third person singular forms of verbs in all tenses except the preterite and the preterite perfect of the indicative mood, e.g. come 'he eats' versus comes 'you eat' (informal). However, a phonological characteristic of Caribbean Spanish dialects in general, and of Cuban Spanish in particular, is the deletion or aspiration of systematic /s/ in both syllable-final position within a word, and in word-final environments.

In a series of recent articles, Terrell (1974, 1975, 1976a and 1976b) has presented evidence to support a contention that the deletion of systematic /s/ in word-final environments occurs, not at random, but rather, in a process which is correlated positively with morpho'ogical classes and grammatical function, and is constrained by functional considerations. That is to say, when word-final systematic /s/ is deleted, it is done so in a manner which, as suggested by Kiparsky (1972), tends to retain semantically relevant information in the surface structure.

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Specifically, with regard to Cuban Spanish, Terrell makes the following claims:

1. Deletion occurs in: (as shown in #1 of the handout)
   a. First-person plural verb forms, e.g. contamos 'we count' [ kontámo ]
   b. Nouns which are preceded by another plural marker in the same NP,

e.g. los libros 'the books' [lohlíβro ]

c. Prenominal adjectives occurring in second position within an an NP, e.g. los buenos amigos 'the good friends' [lo'ßwénoamígo]

d. Predicate adjectives, e.g. Las muchachas están enfermas. 'The girls are sick.' [lahmučáčaehtáŋemférma ]

e. The lexical item entonces 'then' [entónse ]

f. The lexical item nosotros 'we' [nosótro ]

2. On the other hand, deletion is suppressed in:

a. The first occurring prenominal modifier within an NP, e.g. los libros 'the books' [lohlíβro]

b. The verb form es 'he is' [éh ]

c. The lexical item más 'more' [máh ]

d. The lexical item nos 'us' [noh ]

Since these specific claims made by Terrell seem to be intuitively incorrect for Cuban Spanish as I know it, the main purpose of this preliminary study will be to test the above ten claims using a different data corpus.

The working hypothesis of this paper, then, will be that in Cuban Spanish rapid speech, word-final deletion of systematic /s/ does not occur based on a system of functional oppositions, as suggested by Terrell's studies, but rather, takes place as the norm in word-final environments, without regard to grammatical or semantic constraints.

The data used in the present study were taken from five hours of recorded tapes made from totally unstructured free conversations involving twenty-one informants, all of whom are native speakers of Cuban Spanish, and who are now permanent residents of the Miami, Florida area. There were thirteen female and eight male informants, whose ages range from twenty-one to fifty-five years, their median age being twenty-six years. Of these twenty-one informants, all but two received an education through the university level; the remaining two partially completed high school. The informants

used in this study represent all Cuban provinces except Pinar del Río, with the majority (52.4%) being from the province of La Habana.

Table I (#2 on the handout) shows the percentages of the three different surface mainfestations of the systematic phoneme /s/ as they occurred in the data under analysis in the present study.

This Table shows that in word-final environments in these data, deletion is the most frequent surface manifestation of systematic /s/, occurring at a percentage rate of 59.2. Aspiration occurs at a rate of 37.7%, while retention of the [+strident] sibilant on the surface level occurs only at a rate of 3.1%.

Comparing these percentages with those taken from Terrell (1974:8), shown in Table II (#3 of the handout), it can be seen that Terrell reports a much higher percentage of [s] retention (21.0% versus 3.1% in the present study); a considerably higher percentage of aspiration (53.0% versus 37.7%); and a much lower percentage of deletion (25.0% versus 59.2%). The striking differences in the percentages of /s/ retention, aspiration, and deletion between Terrell's data and those of the present study should be kept in mind, as they bear crucially on the findings and conclusions of both studies.

Terrell (1974:19) has reported that deletion of word-final systematic /s/ occurs in the first-person plural verb form at a percentage rate of 72.8. In the data used in the present study, deletion occurred in these verb forms at a rate of 86.2%. (See Table III of handout). Terrell (1976b:15) states that this high percentage of /s/ deletion in first-person plural verb forms "corresponds directly to the function of the /s/" which in these verbs is totally redundant. Therefore, in the other member of the verbal paradigm of Spanish which ends in systematic /s/, the second-person singular (familiar), it would then seem logical to expect a low rate of /s/ deletion, since, as prevoiusly stated, this word-final /s/ alone distinguishes this verb form from the third-person singular. What we find, however, is very much to the contrary: In the data under analysis in the present study, systematic /s/

was deleted from second-person singular verb forms at a rate of 67.0% (also shown in Table III). Based on the functional opposition hypothesis, we would expect a much lower percentage of deletion. Terrell, on the other hand, offers no percentage of word-final /s/ deletion for second-person singular (familiar) verb forms, stating (1974:18) "The number of occurrences of the second-person singular morphemes was so reduced due to the nature of the interviews, that the results are unreliable" (40 occurrences from 20 hours of interviews). In the conclusions to this paper, I will elaborate on this very revealing statement.

Terrell (1974:24) has reported that, in nouns which are preceded by another lexical item in the same NP bearing a plural marker, there is a high percentage of /s/ deletion (56.7%). In the data used in the present study, /s/ deletion occurred in these nouns at a percentage rate of 80.4. (These data also appear in Table III). It is clear, then, that in both of these studies, /s/ deletion has occurred in nouns in this syntactic environment at a high rate (56.7% and 80.4%). In unmodified nouns, however, Terrell (1974:24) reports /s/ deletion occurring at a rate of only 17.9%. Following Terrell's definition of "unmodified nouns", in the present study /s/ deletion was found to have taken place 66.3% of the time. (These data relative to unmodified nouns are also included in Table III.) Because /s/ deletion has occurred in his data 56.7% of the time in modified nouns, but only 17.9% in unmodified nouns, Terrell concludes that the principle of functional opposition is at work here. In the data under analysis in the present study, however, /s/ deletion occurred at a percentage rate of 80.4 in modified nouns, but 66.3% in unmodified nouns. While it is true that /s/ deletion has occurred 14.1% less in the present study in unmodified nouns, one would not want to claim that a [illegible].3% rate of deletion represented a tendency for this morpheme to be maintained at the surface level. In the final analysis, however, Terrell's category of unmodified nouns is, at best, rather nebulous. Looking at his own examples: 1. un grupo de plantas 'a group of plants' (1975:5)

2. un grupo de imbéciles 'a group of imbecils' (1974:24)

calling the nouns plantas and imbéciles unmodified in these expressions is highly questionable, since you cannot say in Spanish:

1a. *un grupo de planta 'a group of plant'

2a. *un grupo de imbécil 'a group of imbecil'

i.e. the word-final /s/ of plantas and imbéciles is completely redundant.

Regarding prenominal adjectives occurring in second position in an NP, and preceded by another adjective or determiner, Terrell (1974:21) reports a 50.9% rate of deletion of word-final /s/. In the first occurring prenominal adjective within an NP, Terrell (1974:21) reports that this word-final /s/ deletion is suppressed, occurring only 2.8% of the time. The great difference in these deletion rates (50.9% versus 2.8%) would, of course, support the functional opposition hypothesis. In the data under analysis in the present study, deletion of word-final /s/ in prenominal adjectives appearing in second position in the same NP, occurred at a frequency rate of 90.2%. The rate of word-final /s/ deletion in adjectives occurring in first position within an NP was 34.1%. (The data relative to /s/ deletion in adjectives are shown in Table III). These percentages, it must be admitted, are striking. Based on Terrell's data and the data in the present study, it would appear that in adjectives, deletion of word-final /s/ does occur at a significantly higher rate when the prenominal adjective within an NP is preceded by another lexical item indicating number. These facts would, of course, tend to support the functional opposition hypothesis.

In the case of predicate adjectives, Terrell's data and the data under analysis in the present study are in agreement, i.e., both show a high degree of word-final /s/ deletion in these lexical items. This word-final /s/ is, to be sure, totally redundant, since the pre-copula NP would give some indication of number, and the copula itself will always be inflected for singular versus plural. Terrell states that a high degree of /s/ deletion occurs in these predicate adjectives, but he does not list predicate adjectives as a seperate category in his data, but rather he lists them with those adjectives occurring in second position within an NP.

In predicate adjectives in the data used in the present study, word-final /s/ deletion occurred at a rate of 97.7%. (These data concerning /s/ deletion in adjectives are shown in Table III.)

In his studies, Terrell reports a high rate of word-final /s/ deletion in the lexical items entonces and nosotros. For entonces, he reports a word-final /s/ deletion rate of 90.9% (1974:28); for the lexical item nosotros, he reports an 85.0% rate of deletion (1976b:Table IX). In the data in the present study, the word-final /s/ of entonces was deleted at a rate of 89.7%, and in the case of the lexical item nosotros, deletion occurred at a percentage rate of 77.9. The data from both studies clearly show a very high rate of word-final /s/ deletion in these two lexical items. Since, in these monomorphemic lexical items, the word-final /s/ does not indicate number, i.e., it is totally redundant, the functional opposition hypothesis would predict this high percentage of deletion. Unfortunately, Terrell's data concerning the monomorphemic lexical items es and más contradict this hypothesis.

Terrell reports that the deletion of word-final /s/ in these monomorphemic lexical items is suppressed. He states that deletion of word-final /s/ in es occurs only at a rate of 5.5% (1974:19); in the case of más, Terrell reports that /s/ is deleted at a percentage rate of only 1.0 (1976b:Table XII). Based on the functional opposition hypothesis, one would expect a high degree of /s/ deletion in all monomorphemic lexical items ending in systematic /s/, such as más and es. In the data under analysis in the present study, however, a high rate of word-final /s/ deletion fails to occur in either más or es. In the case of más, the deletion rate of this word-final /s/ is 35.3%; in the case of es, deletion occurs only 16.1% of the time. It would appear, then, that the percentages of /s/ deletion in más and es reported in the present study also contradict what would be predicted by the functional opposition hypothesis, as they do tend to agree with Terrell's findings relative to word-final /s/ deletion in más and es. The percentages of /s/ deletion reported in the present study, 35.3% and 16.1% are, however, much higher than those reported in those

studies done by Terrell (1.0% and 5.5%). I can offer no plausible explanation why /s/ would be far less frequently deleted in más and es than in entonces and nosotros. One might attempt to beg the question, at least with es, claiming that since the morpheme /s/ in word-final position alone distinguishes the second and third-person singular verb forms in the regular Spanish verbal paradigms, and since the functional opposition hypothesis would predict the non-deletion of word-final /s/ in these second-person forms, that based on analogy with second-person singular verb forms, the /s/ of the irregular third-person singular form es might also be retained or aspirated. Unfortunately for this approach, the data in the present study show a deletion rate of 67.0% on these second-person singular verb forms. One thing is clear, however: the percentage of word-final /s/ deletion for all monomorphemic lexical items ending in systematic /s/ in the data used in the present study (shown in Table IV), 64.6%, is consistent with the overall percentage of word-final /s/ deletion for all lexical items in Cuban Spanish, reported in Table I of this study as 59.2%. Word-final /s/ deletion in monomorphemic lexical items neither supports nor contradicts the functional opposition hypothesis; it is merely consistent with the general tendency present in Cuban Spanish rapid speech to delete word-final /s/.

Finally, Terrell reports that word-final /s/ deletion is suppressed in the lexical item nos, stating that deletion occurs at a rate of only 18.0% (1976b: Table XII). This low percentage of deletion would, of course, be predicted by the functional opposition hypothesis, since no and nos do contrast in Spanish. In the data under analysis in the present study, deletion of word-final /s/ in nos occurred at a percentage rate of only 21.6. There seems to be no immediately obvious explanation why /s/ deletion is relatively low in the lexical items nos, as well as más and es, but not very high in others such as entonces, después, nosotros, etc. For the time being, at least, it must be conceded that the 21.6% of deletion of word-final /s/ in the monomorphemic lexical item nos would appear to support the functional opposition hypothesis.

It seems, then, based on Terrell's data which show: 1. high percentages of word-final /s/ deletion in first-person plural verb forms, in nouns preceded by another determiner or adjective, in prenominal adjectives occurring in second position, in predicate adjectives, and in the lexical items entonces and nosotros; and 2. very low percentages of word-final /s/ deletion in the first occurring prenominal modifier, and in the lexical item nos, that these facts converge to show that the functional opposition hypothesis is valid. On the negative side, however, Terrell's data showing low percentages of deletion in es and más would contradict such a hypothesis. In general, nevertheless, it can be stated that, based on his data alone, Terrell has motivated the validity of the proposed functional opposition hypothesis.

To summarize, in the data under analysis in the present study, much less motivation was found for such a hypothesis. It was shown, first of all, that deletion of word-final /s/ is the norm, taking place almost 60% of the time. Some evidence was found, nevertheless, which would appear to support the functional opposition hypothesis: 1. the high percentage of word-final /s/ deletion in the first-person plural verb forms, in nouns preceded by another lexical item marked for number, in second position adjectives, in predicate adjectives, and in the monomorphemic lexical items entonces and nosotros; 2. further support for the functional opposition hypothesis was provided by the lexical item nos, which showed a relatively low /s/ deletion rate. The fact that word-final /s/ deletion in first position adjectives was somewhat low, (34.1%), might also provide some support for such a hypothesis. However, strong evidence against the functional opposition hypothesis was provided by the high percentages of word-final /s/ deletion in second-person singular (familiar) verb forms, and in unmodified nouns, while low percentages of /s/ deletion in es and más would also provide counter-evidence to such a claim. It would appear then, that the data from the present study neither support or refute a functional opposition hypothesis - what these data do show is that word-final /s/ deletion is the norm in the rapid speech of this Spanish dialect.

Essentially, then, we would appear to be left with two contradictory sets of data - one supporting the notion that word-final /s/ is not deleted in those syntactic environments in which such a deletion would remove presumably necessary semantic information from the surface structure, and another set of data supporting the notion that word-final /s/ deletion takes place in this dialect as the norm in word-final environments, without regard to functional oppositions. A close comparison of these two sets of data, however, will show that they, in fact, do not contradict one another, but rather, one set of data deals with normal, non-structured, unguarded rapid Cuban Spanish, while the other deals with careful, guarded, structured, and relatively non-rapid Cuban Spanish.

Terrell's data were collected from the transcriptions made from tapes of interviews which are part of the "Coordinated Study of the Cultured Linguistic norm of the Principal Cities of Latin America and the Iberian Peninsula," otherwise known as the Norma Culta Project. Some of the potential limitations of the tapes used in the Norma Culta Project are: 1. They were gathered by an individual who speaks a non-Caribbean dialect of Spanish in which syllable-final as well as word-final /s/'s are pronounced; since everyone who speaks an "s"-less dialect of Spanish knows that he really should pronounce his "s"'s, such /s/ retention on the part of the interviewer would probably tend to elicit a higher than usual percentage of retained or aspirated /s/'s on the part of the informants; 2. The Cubans who were interviewed were all recent arrivals on "Freedom Flights" from Cuba. As most just arrived political immigrants tend to be somewhat paranoid anyway, the idea of being approached by someone with a microphone and tape-recorder asking questions would most probably put these informants on their best behavior, linguistic and otherwise. Their best linguistic behavior would, of course, be a more "standard" Spanish, i.e. one in which /s/'s were pronounced; 3. Finally, the interviews consisted not in free conversation, but rather in question-answer dialogues. Again, this type of structured interview would probably cause the production of a more careful, i.e.

standard pronunciation. It is suggested that these three factors alone would be enough to account for the relatively high percentages of /s/ retention and aspiration, and the very low percentages of /s/ deletion in Terrell's studies. Terrell himself admits that the interviews were "relaxed but semi-formal" (1974:6). Also, as previously mentioned in the present study, there were only forty occurrences of the tú, i.e., informal 'you', verb form in Terrell's data from twenty hours of interviews. Since Cuban speakers tend to be quite liberal with the usage of the familiar second-person tú verb forms, rather than using the formal third-person equivalent, usted, it is apparent that these interviews were indeed quite formal.

The data used in the present study, on the other hand, show none of these potential limitations. As mentioned, these data come from totally unstructured, social rapid speech.

It is suggested here that any explanatory theory of phonological processes, such as the functional opposition hypothesis, can be tested only on normal, unguarded rapid speech. Using careful, formal, slower than normal speech merely begs the question.

It should be pointed out that the four articles by Terrell mentioned herein, are carefully done, methodologically sound, important research studies. Their one significant weakness would appear to be that they are based on somewhat questionable data.

It is clear that before any definitive conclusions can be reached regarding the validity or non-validity of the functional opposition hypothesis for Cuban Spanish, a great deal more data need be investigated. At least tentatively, however, based on the data from the present study, such a theory of systematic /s/ deletion/non-deletion, based on functional oppositions, would appear to be of somewhat dubious motivation.

# GRAMMATICAL CONSTRAINTS ON /s/ DELETION IN CUBAN SPANISH - A PRELIMINARY STUDY

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I. 1. Deletion occurs:
- a. First-person plural verb forms, e.g. contamos 'we count' [kontámo]
- b. Nouns preceded by another plural marker in the same NP, e.g. los libros 'the books' [lohlíβro]
- c. Prenominal adjectives occurring in second position within an NP, e.g. los buenos amigos 'the good friends' [lohβwénoamígo]
- d. Predicate adjectives, e.g. Las muchachas están enfermas. 'The girls are sick.' [lahmučáčaehtáŋemférma]
- e. The lexical item entonces 'then' [entónse]
- f. The lexical item nosotros 'we' [nosótro]

2. Deletion suppressed:
- a. The first occurring prenominal modifier, e.g. los libros 'the books' [lohlíβro] ~ [loslíβro]
- b. The verb form es 'he is' [éh] ~ [és]
- c. The lexical item más 'more' [máh] ~ [más]
- d. The lexical item nos 'us' [noh] ~ [nos]

II.

TABLE I

PHONETIC VARIANTS OF SYSTEMATIC /s/ IN WORD-FINAL ENVIRONMENTS

| Surface Variant | Number of Occurrences | Percentage of Occurrences |
|---|---|---|
| [s] | 79 | 3.1 |
| [h] | 953 | 37.7 |
| [ø] | 1499 | 59.2 |
| Totals | 2531 | 100.0 |

III.

TABLE II

(from Terrell 1974:8)

PHONETIC VARIANTS OF SYSTEMATIC /s/ IN WORD-FINAL ENVIRONMENTS

| Surface Variant | Number of Occurrences | Percentage of Occurrence |
|---|---|---|
| [s] | 1186 | 21 |
| [h] | 2979 | 53 |
| [ø] | 1417 | 25 |
| Totals | 5582 | 100 |

IV. TABLE III

PERCENTAGES OF DELETION OF WORD-FINAL /s/ GIVEN IN THE TWO STUDIES UNDER DISCUSSION

| Item | Terrell | | Hammond | |
|---|---|---|---|---|
| | Number of Occurrences | Percentage of Occurrences | Number of Occurrences | Percentage of Occurrences |
| First-person Plural Verb Forms | 206/283 | 72.8 | 156/181 | 86.2 |
| Second-person Singular Verb Forms | None Given | None Given | 260/388 | 67.0 |
| Nouns Preceded by Another Plural Marker | 532/939 | 56.7 | 229/285 | 80.4 |
| Unmodified Nouns | 54/302 | 17.9 | 236/356 | 66.3 |
| First Position Adjectives | 32/1159 | 2.8 | 89/261 | 34.1 |
| Second Position Adjectives | 117/230 | 50.9 | 37/41 | 90.2 |
| Predicate Adjectives | | | 42/43 | 97.7 |
| entonces | 159/175 | 90.9 | 61/68 | 89.7 |
| nosotros | ---- | 85.0 | 46/59 | 77.9 |
| es | 23/415 | 5.5 | 48/299 | 16.1 |
| más | ---- | 1.0 | 48/136 | 35.3 |
| nos | ---- | 18.0 | 8/37 | 21.6 |

V.

TABLE V

RATES OF DELETION OF WORD-FINAL /s/ FOR ALL MONOMORPHEMIC LEXICAL ITEMS

| Item | Number of Occurrences (deletion/total) | Percentage of Occurrence (of /s/ deletion) |
|---|---|---|
| entonces | 159/175 | 90.0 |
| pues | 0/8 | 0 |
| cardinal numbers | 44/80 | 55.0 |
| más | 48/136 | 35.3 |
| antes | 8/8 | 100.0 |
| después | 44/44 | 100.0 |
| all other monomorphemic lexical items | 192/316 | 60.8 |
| Totals | 495/767 | 64.6 |

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